

# इंटरनेट

# मानक

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IS 4009-3 (1995): Lubricating Equipment - Grease nipples  
Part 3 - Cup type [PGD 19: Lubricating Equipments]



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भारतीय मानक

स्नेहन उपस्कर — ग्रीस निप्पल

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*Indian Standard*

**LUBRICATING EQUIPMENT — GREASE  
NIPPLES**

**PART 3 CUP TYPE — SPECIFICATION**

ICS 621 — 725

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

October 1995

Price Group 2

## FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Lubricating Equipment Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

This standard was first published as IS 5019 : 1968 'Specification for lubricating plugs'. The previous version covered grease nipples which were designated as lubricating plugs.

Grease nipples are now covered by IS 4009 which already has two parts. This standard will be published as Part 3 of IS 4009 and with the publication of this standard all types of grease nipples would be covered by Indian Standards. IS 5019 will be automatically withdrawn on publication of this part. The other two parts of IS 4009 are:

IS 4009 ( Part 1 ) : 1981 'Grease nipples: Part 1 Button head grease nipples ( *first revision* )'

IS 4009 ( Part 2 ) : 1981 'Grease nipples: Part 2 Conical head grease nipples ( *first revision* )'

This standard covers the cup type grease nipples which are used for lubricating general machines, machine tools, automobiles and ships. In general, these nipples are used in conjunction with hand operated guns. The grease nipples have a ball valve loaded with a spring which opens only under pressure of the gun.

While preparing this standard assistance has been derived from DIN 3405 — 1986 Trichter — Schmiernippel.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values ( *revised* )'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

# Indian Standard

## LUBRICATING EQUIPMENT — GREASE NIPPLES

### PART 3 CUP TYPE — SPECIFICATION

#### 1 SCOPE

This standard specifies the requirements for cup type grease nipples — to be used for the purpose of lubricating general purpose machine and equipment.

#### 2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

IS No.	Title
319 : 1989	Free cutting brass bars, rods and sections ( <i>fourth revision</i> )
1284 : 1975	Wrought aluminium alloy bolt and screw stock for general engineering purposes ( <i>second revision</i> )
1367 ( Part 3 ) : 1991	Fasteners — Threaded steel — Technical supply conditions: Part 3 Mechanical properties and test methods for bolts, screws and studs with full loadability ( <i>third revision</i> )
1369 ( Part 2 ) : 1993	Fastener — Thread runout and undercuts: Part 2 Dimensions for screw thread undercuts for external ISO metric threads ( <i>third revision</i> )
1572 : 1986	Electroplated coatings of cadmium on iron and steel ( <i>second revision</i> )
1573 : 1986	Electroplated coatings of zinc on iron and steel ( <i>second revision</i> )
2771 ( Part 1 ) : 1990	Specification for fibreboard boxes : Part 1 Corrugated fibreboard boxes ( <i>second revision</i> )
4218 ( Part 1 ) : 1976	ISO Metric screw threads: Part 1 Basic and design profiles ( <i>first revision</i> )
4905 : 1968	Methods for random sampling
8788 : 1978	Dimension for metric external taper and internal parallel screw threads

#### 3 MATERIAL

3.1 The grease nipples shall be manufactured from steel conforming to property class 4.8 as given in IS 1367 ( Part 3 ) : 1991. For special purposes, brass conforming to IS 319 : 1989 and aluminium conforming to IS 1284 : 1975 may also be used as manufacturing materials.

#### 4 DIMENSIONS

4.1 The main dimensions for grease nipples shall be as given in Tables 1 to 3.

4.2 The nominal size of the grease nipples of Type A shall have ISO metric profile conforming to IS 4218 ( Part 1 ) : 1976.

4.3 The nominal size of the grease nipples of Type B and Type C shall be as given in IS 8788 : 1978.

#### 5 WORKMANSHIP AND FINISH

5.1 The grease nipples shall be finished smooth and shall be free from burrs, cracks and other manufacturing defects.

5.2 The grease nipples manufactured from steel shall be plated with zinc as per IS 1573 : 1986 or cadmium as per IS 1572 : 1986.

#### 6 DESIGNATION

6.1 The grease nipples shall be designated by the following:

- a) Commonly used name;
- b) Nominal size;
- c) Type;
- d) Number of this standard; and
- e) Material ( St for Steel, Br for Brass, Al for Aluminium ).

*Example:*

A grease nipple of nominal size M8 × 1 — Type A of steel shall be designated as:

Grease Nipple M8 — Type A, IS 4009 ( Part 3 ), St.

#### 7 TESTS

##### 7.1 Flow Tests

The oil shall flow smoothly and the valve shall function normally when the lubricating oil is

**Table 1 Dimensions for Grease Nipples, Type A**

( Clause 4.1 )

All dimensions in millimetres.

Figure	Nominal Size	Threaded Shank $d_1$	$d_2$ $\pm 0.5$	Width Across Flats $\frac{s}{h13}$
(1)	(2)	(3)	(4)	(5)

M6 — Type A	M6	6	7
M8 — Type A	M8 × 1	8	9
M10 — Type A	M10 × 1	10	11

<sup>1)</sup> Chamfer down to minor diameter of thread.**Table 2 Dimensions for Grease Nipples, Types B and C**

( Clause 4.1 )

All dimensions in millimetres.

Figure	Nominal Size	Threaded Shank $d_1$	Width Across Flats $\frac{s}{h13}$ Square/Hexagon
(1)	(2)	(3)	(4)

M6 — Type B	M6	9	—
M8 — Type B	M8 × 1	9	—
M10 — Type B	M10 × 1	11 <sup>2)</sup>	11 <sup>2)</sup>

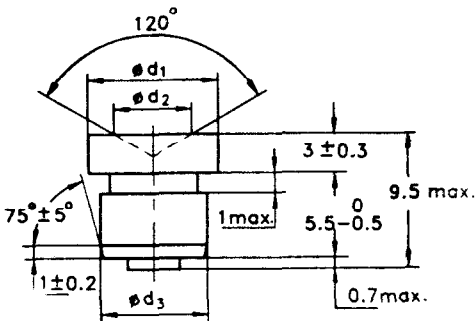
  
  

M6 — Type C	M6	9	—
M8 — Type C	M8 × 1	9	—
M10 — Type C	M10 × 1	11 <sup>2)</sup>	11 <sup>2)</sup>

<sup>1)</sup> Chamfer down to minor diameter of thread.<sup>2)</sup> Square or hexagon at the manufacturer's option.

**Table 3 Dimensions for Grease Nipples, Type D ( with Insert Plug )**  
( Clause 4.1 )

All dimensions in millimetres.

Figure	Nominal Size	Insert Plug $d_3$	Seat Hole H11	$d_1$ $\pm 0.5$	Collar Dia $d$
(1)	(2)	(3)	(4)	(5)	(6)
	6 — Type D	6.1	5.9	6	8
	8 — Type D	8.1	7.9	8	10

forced into nipple at a pressure of not more than 2 MPa ( 20.4 kgf/cm<sup>2</sup> ). Under these conditions it shall not have any abnormality caused in the function of ball/poppet and the other components.

**7.1.1** The ball/poppet shall not move axially under a force of 30 Newton.

## 7.2 Pressure Tightness

When the lubricating oil is forced into the nipple from the fitting side under a pressure of 3.5 MPa ( 35.7 kgf/cm<sup>2</sup> ) there shall not be any leakage or other abnormality.

## 8 MARKING

**8.1** The grease nipples shall be marked with the manufacturer's name or trade-mark and the nominal size.

**8.2** The product may also be marked with Standard Mark.

**8.2.1** The use of the Standard Mark is governed by the provisions of the *Bureau of Indian*

*Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

## 9 PACKING

**9.1** The grease nipples shall be packed in fibreboard boxes conforming to IS 2771 ( Part 1 ) : 1990 or as specified by the purchaser.

**9.2** In single packing unit only nipples of same, size, type and material shall be packed.

**9.3** For identification, the package shall always carry suitable tags or labels.

## 10 SAMPLING

**10.1** Unless otherwise agreed to between the purchaser and the supplier, the sampling plan as given in Annex A shall be followed.



## ANNEX A

( Clause 10.1 )

### SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

#### A-1 SCALE OF SAMPLING

##### A-1.1 Lot

In any consignment all the grease nipples of the same size, type and manufactured under essentially similar conditions shall constitute a lot.

**A-1.2** For ascertaining the conformity of the lot to the requirements of this specification, tests shall be carried out for each lot separately. The number of nipples to be selected at random from each lot shall be in accordance with col 1 and 2 of Table 4. To ensure the randomness of selection, IS 4905 : 1968 shall be followed.

#### A-2 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

**A-2.1** The nipples selected according to **A-1.2** shall be examined for dimensions ( *see 4* ) and workmanship and finish ( *see 5* ). Any nipple failing to satisfy the requirements for any one or more of the characteristics shall be declared defective.

**A-2.2** The lot shall be declared conforming to the requirements of this specification if the number of nipples found defective is less than or equal to the corresponding number given in col 3 of Table 4.

**Table 4 Sample Size and Permissible Number of Defectives**

( Clauses A-1.2 and A-2.2 )

Lot Size		Sample Size	Permissible Number of Defectives
(1)		(2)	(3)
Up to	100	8	0
101 to	150	13	0
151 to	300	20	0
301 to	500	32	1
501 to	1 000	50	2
1 001 to	3 000	80	3
3 001 and above		125	5

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This Indian Standard has been developed from Doc No: LM 16 (0027).

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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